

What is claimed is:

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1. A switch arrangement, comprising a MEMS switch connected to a voltage supply system, said MEMS switch having a mechanical resonant frequency, and said voltage supply system having a capability for supplying a voltage with a frequency corresponding to said mechanical resonant frequency.
2. The switch arrangement as claimed in claim 1, wherein said MEMS switch includes a movable part having said mechanical resonant frequency.
3. The switch arrangement as claimed in claim 1, said MEMS switch including a first electrode spaced from a second electrode, and further including a movable part, said movable part including said second electrode.
4. The switch arrangement as claimed in claim 1, said MEMS switch including a first electrode spaced from a second electrode, and further including a movable part, said movable part including said second electrode, said voltage supply system being connected to said first electrode and to said second electrode.

1 5. The switch arrangement as claimed in claim 1, said voltage supply system
2 including a control circuit connected to a voltage supply.

1 6. The switch arrangement as claimed in claim 1, wherein said MEMS switch
2 further comprises pairs of electrodes, and wherein said voltage supply system
3 comprises:

4 a voltage supply having an input and outputs, said outputs being
5 connected to a first pair of said electrodes;

6 a logic gate having at least one input and an output, said output
7 of said logic gate being connected to said input of said
8 voltage supply;

9 a first comparator having an input and an output, said output
10 of said first comparator being connected to said at
11 least one input of said logic gate;

12 a differentiator having an input and an output, said output of
13 said differentiator being connected to said input of
14 said first comparator, and

15 a capacitor detector having inputs and at least one output,
16 said at least one output of said capacitor detector
17 being connected to said input of said differentiator,
18 said inputs of said capacitor detector being connected to a

second pair of said electrodes.

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7. The switch arrangement as claimed in claim 6, wherein said capacitor detector has a second output, said logic gate has a second input, and wherein said voltage supply system further comprises a second comparator having an input and an output, said output of said second comparator being connected to said second input of said logic gate, and said input of said second comparator being connected to said second output of said capacitor detector.
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8. The switch arrangement as claimed in claim 6, wherein said logic gate is an OR gate.
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9. A method, comprising:
- 2 providing a MEMS switch including a movable part, the movable
- 3 part having a mechanical resonant frequency, and then
- 4 supplying an AC voltage to the movable part, the AC voltage
- 5 having a frequency corresponding to the mechanical
- 6 resonant frequency of the movable part.

1 10. The method as claimed in claim 9, further comprising moving the movable
2 part responsive to said supplying step.

1 11. The method as claimed in claim 10, further comprising detecting motion
2 of the movable part and then varying the AC voltage of said supplying
3 step responsive to said detecting step.

1 12. The method as claimed in claim 9, wherein said providing step comprises
2 providing a MEMS switch of a cantilever type.

1 13. The method as claimed in claim 9, wherein said providing step comprises
2 providing a MEMS switch of a bridge type.

1 14. The method as claimed in claim 9, wherein the frequency equals the
2 frequency of the mechanical resonant frequency of the movable part.

1 15. The method as claimed in claim 9, further comprising supplying a
2 DC voltage to the movable part.

1 16. The method as claimed in claim 9, wherein the frequency of the
2 AC voltage is a frequency in a range from approximately one KHz

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to approximately 100KHz.

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